The Reporter

June 8, 1954 25c

The Lie-Detector Era

I. 'I Know You Done It. The Machine Says So. . . .'

DWIGHT MACDONALD

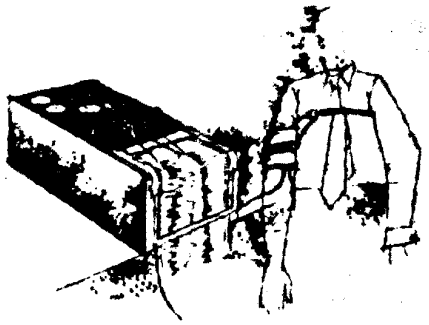
For some thirty years now, Sunday supplements have been rendering their readers popeyed with articles on a supposedly infallible device of scientific black magic called a lie detector. The general impression fostered by such accounts is that the lie detector is a recently invented machine that detects lies. The impression is incorrect.

The lie detector was not recently invented nor is it a machine; it is a combination of three instruments that were devised, for other purposes, in the nineteenth century. And it does not detect lies; it simply records the physiological by-products of emotional responses. From this record and from many other criteria, including simple observation, a highly skilled examiner can very often tell whether a subject is lying or telling the truth. As J. Edgar Hoover, no great enthusiast for the device, has put it: "The name is a complete misnomer. The machine used is not a lie detector. . . . The person who operates the machine is the lie detector by reason of his interpretations . . . whenever the human element enters into an interpretation of anything, there always is a variance."

Until recently, the lie detector was used almost wholly in criminal work—in police interrogation of suspected criminals and in screening employees of banks, department stores, and other business firms where the accessibility of money or goods is a temptation.

Notable examples of the device's usefulness in police interrogation include the Army Criminal Investigation Division's success in getting Colonel Jack Durant and his wife to admit stealing the Hesse crown jewels while on occupation duty in Germany after the Second World War; the freeing of Joe Majcek in 1946 from Illinois State Prison after serving twelve years of a life term for a murder he did not commit (a movie, "Call Northside 777," was later made of the Majcek case); the solution of the baffling Schwartz murder case in Berkeley, California, in 1925, after a lie test had shown that the "logical" (and, as it turned out, framed-up) suspect was innocent.

An example of the commercial use of the lie detector was the testing some years ago of employees in a big chain-store system that had been losing $1.4 million a year by pilferage, with the result that seventy-



six per cent of them admitted having taken goods or money; a second test six months later showed only three per cent still doing it.

Success stories of this kind explain why the lie detector is being used by more and more police departments.

Expansion of its use in business has been slower, mainly because labor just doesn't like the lie detector. Several years ago, for instance, Fries, Beall & Sharp, a big hardware store in Washington, D. C., had its 122 employees take lie tests. The story leaked out, and there was an uproar in the local press. (Despite the efforts of the profession to present the lie detector as something that need embarrass only the guilty, the public persists in seeing the whole procedure as intrinsically humiliating.) "We believe our employees are honest, and we're just trying to prove it," said W. J. Tastet, the head of the firm, a bit desperately. "Mr. Tastet thinks the employees all feel better now that they have purged themselves," retorted an employee. "They don't. They're scared and unhappy."

The biggest lie-detection screening operation ever undertaken in a criminal case was recently begun in La-Crosse, Wisconsin, where seventeen hundred high-school students and teachers were to be examined with the lie detector in an attempt to solve the disappearance of a fifteen-year-old baby sitter. The device has been used not only by the U.S. government against Communists but also by Communists against the government. In 1950, John Lautner, an FBI spy in the party, was taken into a cellar in Cleveland, where his wrist was taped and a ball placed in his hand. Every time he said something, according to Lautner, his examiners called him a liar. The comrades may have been using a phony as psychological warfare—the police have been known to do this—or they may have been using the Tremograph, a lie detector invented in the 1920's by a Soviet scientist named Luria.

'Answer Yes or No'

The lie detector may have proved its usefulness for certain police and commercial investigations, but in the last five years, as we shall see, a broad new field of operations has been opened up in which the results have

been much less impressive. This is the use of the lie detector in government service: to do mass security screening of new employees in certain "sensitive" Federal agencies, to check up on individual employees who have been accused of being bad security risks, and sometimes, according to reports, simply as a threat to get people to resign quietly and without fuss.

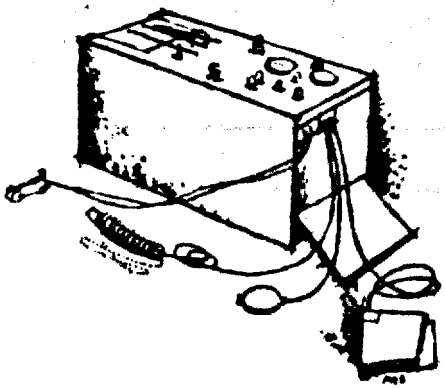
The questions raised by this new development are both technical and moral. In criminal investigations the lie-detector operator is looking for answers to relatively simple, or at least concrete, questions: Did you fire the gun? Did you take the money? Were you at the scene of the crime? But more recently government examiners have been looking for answers to complex and vague questions that are not always easy to answer with a simple Yes or No: Have you ever had any Communist sympathies? Have you been closely associated with Communists or fellow travelers? Is your sex life normal? Are you open to blackmail? There is considerable doubt in the trade whether the lie detector can be relied on to give accurate results when the question is one of inclination or intention rather than one of fact, and, indeed, the results so far do not encourage much optimism.

There is also a moral issue involved. Should citizens accused of no crime have to subject themselves to a lie test in order to convince their superiors of their honesty? Should it be a prerequisite for getting and keeping a government job that one has to go through a procedure that is to some degree painful and humiliating even with the most scrupulous and sympathetic of examiners, a procedure that has hitherto been reserved for suspected criminals? Those in charge of the government agencies that have been using the lie detector would themselves seem to recognize the embarrassing nature of such questions, since they have gone to considerable lengths to keep the whole matter secret.

It is the purpose of these articles to throw some light into this dark corner of our governmental practices. But let us begin by considering briefly the lie detector itself and its present legal and scientific standing.

Truth Machines In Action

The first person to use a scientific instrument as an aid in detecting lies was the nineteenth-century criminologist Cesare Lombroso, who in 1895 claimed success in establishing the guilt or innocence of suspected criminals by taking their blood pressure while they were being questioned. Shortly afterward, the famous Swiss psychiatrist C. G. Jung concluded that it was possible to detect attempts at lying or evasion with the help of a "psychogalvanometer" to measure electrical skin resistance. In 1908, Professor Hugo Münsterberg of the Harvard psychology department in his book *On the Witness Stand* suggested further possibilities of detecting lies by means of recording physiological changes. In 1914, a second Italian criminologist, Vittorio Benussi, published an important study of the breathing rate of subjects under in-



terrogation, arriving at the "Benussi Ratio," which related respiratory changes to attempts at deception. The following year, William Moulton Marston, a criminal lawyer who was a disciple of Münsterberg, began to study the correlation between lying and blood-pressure changes.

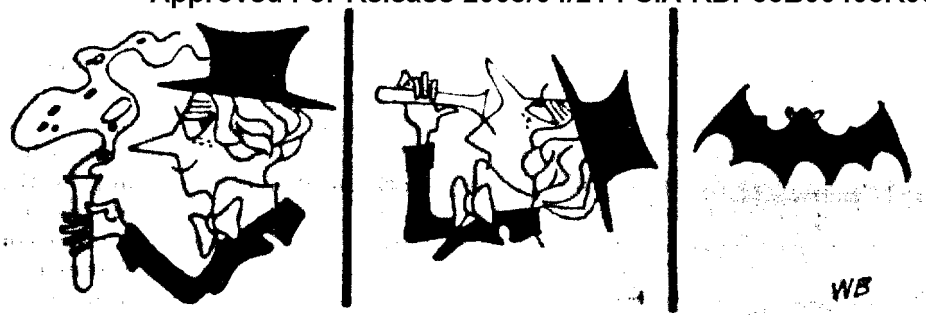
During the First World War, the National Research Council asked Marston and several other psychologists to investigate the various kinds of deception tests then known and report on their possible usefulness in counterespionage work. The war ended before the government could make any use of the report, but Marston's work was carried on by a young psychologist named John A. Larson, who in 1921 devised an apparatus that recorded both breathing and blood pressure. Larson worked on the Berkeley, California, police force under the celebrated August Vollmer, often called the father of scientific police work in this country, and in the early 1920's Larson used his apparatus with success on hundreds of criminal suspects. He was presently joined on the Berkeley police force by a psychology major from Stanford University named Leonarde Keeler. Later on, both moved to Chicago, Larson to become Assistant State Criminologist of Illinois and Keeler to work in the Scientific Crime Detection Laboratory which Northwestern University set up in 1930 with funds from Chicago businessmen whose interest in crime detection had been stimulated by the St. Valentine's Day gang massacre of 1929.

The final product of all this evolution was the Keeler "polygraph" (Greek for "writing much"), which was developed by Keeler beginning in 1926 as an improvement and elaboration of Larson's apparatus.

My Own Lie Test

I took a test on the polygraph myself, to gather research for these articles. I sat, following instructions, with feet flat on the floor, eyes looking straight ahead at a spot scratched on the wall for this purpose, motionless, in shirtsleeves. The room was an ordinary office, except that the door was heavily padded, since outside noises might distract the "subject" and cause misleading reactions. (In some polygraph rooms, a two-way mirror is set in the wall, through which the proceedings may be spied on without the subject's being aware of it, but there was no mirror in the room where I underwent my test.)

The pneumograph, a corrugated rubber tube that expands and contracts as one breathes, was fastened around my chest. The sphygmanometer, an inflatable rubber cuff such as doctors use to measure blood pressure, was wrapped around my upper arm. Ordinarily, there would also have been attached to my hand two electrodes to measure galvanic skin response, or the resistance of skin to a weak electrical current; the resistance changes with emotional response. But the electrodes were



out of order the day I presented myself for examination.

Since my job didn't depend on the results of the test, I felt no special emotion, although I did become uncomfortably aware of my breathing and of my blood throbbing against the inflated cuff. The examiner, who sat to the side slightly behind me, flipped a switch, the machine began to whirr industriously, and the impulses from the gadgets attached to me began to make lines on a moving roll of graph paper driven by a small electric motor.

THE EXAMINER asked me seven questions, pausing a long time, perhaps thirty seconds, between each to let the reaction build up. As I had been instructed, I replied to each question with a simple "Yes" or "No." Four of the questions were "neutral." That is, they presumably would cause no reaction and would be answered truthfully: "Is your name Dwight Macdonald?" "Did you eat breakfast today?" "Do you live in New York City?" "Are you wearing a brown suit?" To each of these I replied, "Yes." Three other questions were "crucial." That is, they might be expected to stimulate emotion, especially if my answers were untruthful: "Have you ever committed grand larceny?" "Have you ever belonged to an organization on the Attorney-General's black list?" "Have you ever been imprisoned?" To each of these I answered, "No"—truthfully to the first, falsely to the other two, since I had once belonged to the Workers Party, now on the list, and had spent a day in jail for picketing the Soviet consulate after Trotsky's murder. The examiner spotted these falsehoods when we examined the chart after the test, though to my untutored eyes the squiggles didn't seem very different from those provoked by the other five questions. He admitted that the reactions were rather weak. The one squiggle that seemed to rise to a definite peak was, oddly enough, the record of my reaction to the question about the brown suit: I had been obliged to look down and see what color suit I was wearing before replying, and that had caused me to hold my breath momentarily, with sensational effects on the graph.

We then went through the test again, with about the same results, except that this time there was no reaction to the brown-suit question. Finally, we played some guessing games. I was instructed to write down the year of my birth and two other years close to it and to answer "No" each time I was asked "Were you born in . . . ?" I wrote 1904, 1906, 1908. From the graph, the examiner deduced that I was born in 1904. He had told me in advance that this kind of test might not work, since no emotion at all was involved. It didn't. I was born in 1906.

The Theory

The basic theory behind the polygraph is that telling a lie will have greater emotional effect and so cause bigger squiggles on the chart than telling the truth. Questioning techniques are as important as the operation of the machine, and they have been refined and elaborated over the years. They all are based on some combination of "neutral" questions that all subjects will answer truthfully without emotion and "crucial" questions to which the guilty subject will react strongly.

A great deal of ingenuity has been devoted to avoiding false accusations of deception against truthful subjects who out of nervousness or excitability might show strong reactions on crucial questions. Responsible examiners attempt to reassure and relax the subject in the pre-test discussion period; they try to establish each subject's normal degree of reaction even when telling the truth; they "run" subjects a number of times if the first test seems to show evidence of deception, the theory—for which there seems to be impressive evidence—being that a nervous innocent subject will calm down in later tests while a guilty subject will continue to react to the "crucial" questions as strongly as ever.

In the hands of the skillful, experienced, and responsible examiners and when used in the kind of criminal investigation for which it is adapted, the polygraph has without question produced results. Such examiners, however, as we shall see, are not numerous.

The Machines

The great majority of the thousand or so lie detectors now in use are polygraphs, the device developed by Leonarde Keeler with which he achieved impressive results up until the time of his death in 1949. The two best-sellers, both made in Chicago and both costing around $1,500, are Keeler's own machine and a close relative to it called the Stoelting Deceptograph. The latter has been adopted as standard equipment by the Army Signal Corps, which means it is being bought by the world's largest consumer of lie detectors, the Provost Marshal's Office of the armed forces. Two variations on the design of the best-sellers have appeared: the Berkeley Psychograph, which uses a different system for measuring blood pressure, and the Reid Polygraph, which also records arm and leg movements (tensing the muscles is one way to "beat the machine").

There are also Tremographs, Ataxiagraphs, Reactographs, Psychointegrometers, and Behavior Research Photopolygraphs, but only one other type of lie detector is used widely in practical work—as against laboratory experiments. This is what might be called a "monograph," since it records only one reaction—the Galvanic Skin Response. The pioneer work in this field was done in the 1920's by the late Rev. Walter G. Summers, S.J., of Fordham Univer-

sity, and is carried on there now by Professor Joseph Popkin and his colleagues. The device they developed is sometimes called a Pathometer, sometimes a Galvanometer, and sometimes a Psychogalvanometer. It is extremely sensitive, and for this reason it is widely used in laboratory experiments. Its very sensitivity, however, in the opinion of practicing examiners, unfits it for use in criminal cases or screening tests.

AN ILLEGITIMATE child of the scientifically respectable Pathometer is the Electronic Psychometer, which has been marketed aggressively in the last few years by a high-pressure firm called B & W Associates, operating out of Michigan City, Indiana. B & W's Electronic Psychometer is a cheaper version of the Summers-Kubis instrument—it sells for a mere

$210—that looks and acts very much like a speedometer (". . . no recording device to get out of order and to raise the price of the instrument"). If the needle moves to the right "a desirable 3 or 4 units," then the subject is telling the truth; if it goes the other way, he's lying. "Sounds easy, doesn't it?" asks the advertising leaflet. "Well, it is easy and not at all as difficult as some 'experts' would have you believe." To B & W Associates, indeed, even the mysterious Galvanic Skin Response is simple. Dozens of learned monographs have failed to pin down its cause, but the B & W brochure dismisses it with "Don't worry, this is just a professional name for a simple little phenomenon."

"Purchase the machine in perfect confidence," declares the soothing guarantee that accompanies the gadget, "study the manual for 4 or 5 hours—make tests on yourself and your friends at least 15 times in order to gain confidence in yourself—then if you do not detect lies 8 times out of 10 on future tests, you may return the machine and your money will be refunded."

Quite a few economy-minded police departments use the B & W device. An inspector in the U.S. Post Office Department, where the machine is widely used in criminal investigation, feels that its value is "about fifty per cent psychological."

An even simpler device is now manufactured by the Merlin Electric Company, which offers a lie detector at $24.95, available in toy stores.

'There Is No Conscience-Robot'

The lie detector has yet to win broad scientific or legal recognition. Psychologists view it with suspicion, and the higher courts refuse to admit its findings as evidence.

In a poll of some 1,700 criminologists, polygraphists, and psychologists conducted by the University of Tennessee, only thirty-six per cent of the psychologists (as against seventy-five per cent of the polygraphists) agreed with this statement: "The fear of being found out and/or conscious efforts to deceive are the main causes of significant reactions in polygraphic tests of deception."

Perhaps the closest the polygraph has come to an official blessing is a statement that appeared in the *Journal* of the American Medical Association for October 6, 1951. A doctor whom the editors had asked to comment wrote: "The interpretation of the completed graph is the key to the success of the lie-detector technique, and, in fact, it is akin to the interpretation of X-rays, electrocardiograms, and other scientific tests. . . . Consequently, the training, experience and integrity of the operator . . . is of paramount importance. . . ." With that warning, the doctor went on to concede that ". . . the lie detector test is accepted . . . as a valuable means of differentiating truth from falsity."

A less enthusiastic academic pronouncement was offered by Dr. V. Eliasberg in a resolution that was passed by the Forensic Section of the American Pychiatric Association in 1944. The resolution concludes:

"Whereas, the popular belief in the infallibility of the lie detector is apt to prevail unduly upon jurors and to lead to a belief in the machine rather than in conscientious deliberation;

"Whereas, there is no conscience-robot and no diagnosis-robot;

"Now, therefore, we the Forensic Section of the A.P.A. . . . point out that the machine can give valuable results only in the hands of thoroughly trained physicians and psychologists who will evaluate the data derived by applying other available methods and making use of all independently obtainable evidence."

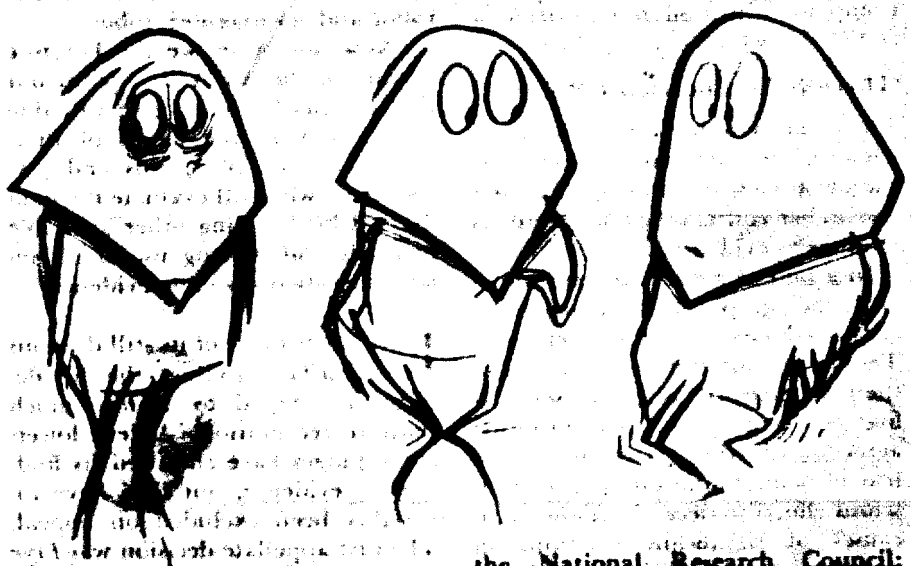
LARGELY because of its still dubious scientific standing, the lie detector has failed to achieve much judicial recognition. A few lower-court judges have admitted its findings in evidence, but they have invariably been excluded on appeal. The first appellate decision was *Frye v. U.S.* in 1923, when a Federal judge upheld a lower court's refusal to admit Marston's test in evidence, observing: "While courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must . . . have gained general acceptance in the particular field in which it belongs." The judge felt that the polygraph had not gained such standing.

A whole generation later, in 1952, the Oklahoma Criminal Court of Appeals was saying much the same thing. It recognized the polygraph's "utility in the field of . . . investigation," but noted "the impossibility of cross-examining the machine (a constitutional impediment)" and "those human elements of fallibility which surround interpretation of the lie-detector recordings." The Oklahoma court of appeals concluded: "these devices are unlike the science of handwriting, fingerprinting

and X-Ray, which reflect demonstrable physical facts that require no complicated interpretation predicated upon the hazards of unknown individual emotional differences, which may and oftentimes do result in erroneous conclusions."

it would be necessary to require the operator to submit to a test to determine the truthfulness of his interpretations."

Professor Dael Wolfle of the University of Chicago summed it up flatly in a study that was made for



the National Research Council: "Whenever thoroughly competent investigators are available, the results will be highly useful. When such men are not available, there should be no use of the apparatus and methods."

From all this it appears that forty years of effort and ingenuity have produced a mechanical technique for detecting lies that depends largely on the human being who uses it, a turn of fate's wheel full-circle that is comic, tragic, or ironic depending on one's point of view.

Granting, however, that the machine is at least a useful aid to honest and competent examiners, how common are such in the profession? The answer is discouraging.

There are today somewhere between three and four hundred persons who regularly give lie-detector examinations. This includes commercial, police, Army, and other government operators. The number of operators who are well qualified to give tests—that is, who are both

minimum of [illegible]

"There are too many sandlot operators in this business," the head of one agency has complained, "men who don't know how to interpret a chart or don't give a damn. I know you done it, they say. 'The machine says so, so come clean, you S.O.B.!'"

Members of the profession itself have estimated that only ten per cent of the examiners working with lie detectors today are fully qualified. The profession is at best an unstable one. While there are some fixed points, the general atmosphere is one of restless flux, with new agencies mushrooming and decaying overnight, enigmatic if not downright dubious characters enjoying a momentary prosperity and then vanishing from the scene, claims and counter-claims, doubts and scandal proliferating until one wonders *Quis Custodiet Ipsos Custodes?* or Who Shall Examine the Examiners?

Even the fixed points often move seismically. Thus, after the revered Leonarde Keeler died in 1949, one of his students, Jack Harrison, bought his business and in a couple of years had turned the school into a diploma mill—"Jack grinds 'em out," to pay bills, an associate remarked sadly—that looked on the world scores of half-trained polygraphists. Some of these graduates are said to have been responsible for the scandalous abuse of the polygraph at the National Security Agency (formerly the Armed Forces Security Agency) that we shall consider in the concluding article of this series. It should be added that the firm now runs a series of six-week courses with six to twelve students per course. Graduates receive a letter certifying to their training; they get a diploma only on producing evidence that they have conducted 150 tests in a manner satisfactory to the Institute.

During the days when the Keeler school was a diploma mill, the Provost Marshal's Office canceled its contract for the training of Army personnel and set up its own school. This school, located at Camp Gordon, a Military Police installation near Augusta, Georgia, is the only other bona fide polygraph training school in the country, and almost all Federal polygraph examiners are now trained there. The regular course runs for eight weeks.

Reliable studies have established that when the polygraph is used by competent examiners and in the criminal work for which it is suited, it has proved accurate and efficient from eighty to ninety-five per cent of the time. Such accuracy, however, is attainable only under the most favorable conditions—which don't often obtain when the police use the machine or, as we shall see, when government examiners use it.

The All-Too-Human Element

The one point of agreement among all those who discuss the lie detector, whether pro or con, is that the vital factor is not mechanical but human. 'The lie detector is as good as the man behind it,' according to John Reid, who operates the nation's largest commercial agency, while Russell Chatham, another leading commercial operator, has admitted

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Eminent Polygraphers

Any list of men who have made their marks in this new field would almost certainly have to include Pro-

Professor Fred E. Inbau, co-author with John Reid of the authoritative book *Lie Detection and Criminal Interrogation*; Russell Chatham, who for seven years conducted at Oak Ridge the most extensive lie-detection program in history; and Ralph W. Pierce, a retired colonel who introduced the polygraph into government service via the Army in 1944 and now operates a commercial agency in Washington. The six personalities sketched below—not necessarily either the most or the least distinguished members of their profession—are in one way or another typical of the men whose business is lie detection.

We might begin with **John E. Reid**, Professor Inbau's co-author and inventor of the Reid Polygraph. His agency, with headquarters in Chicago and branches in New York, San Francisco, and Pittsburgh, probably does more commercial work than any other in the country. It runs about two hundred tests a month at an average fee of $25. Among its clients have been some thirty Chicago judges (who use the polygraph in civil suits when both parties agree, or to supplement probation reports in deciding on sentences); the Chicago police (who have their own machine but consult Reid on difficult cases); the Office of Naval Intelligence; fifteen banks; 171 lawyers; six mail-order houses, including Montgomery Ward; nineteen hotels, from the swank Palmer House to the Y.M.C.A.; the Chicago Racquet Club; the Armored Express Corp.; and a dozen department stores, including Marshall Field.

Frank A. Seckler, who looks like a rather more fatherly J. Edgar Hoover, for whom he once worked, retired from government service in 1950 to open up Personnel Research, Inc., in New York City. Like practically everyone else in the field—at least so it seems—he worked with and admires the late Leonarde Keeler. His firm, housed in a modest suite of offices in the financial district encrusted with photographs and diplomas, is—also typically—a general detective agency and does lie detection only incidentally. His clients, ranging from a few big companies to spouses who want to prove (or disprove) each other's fidelity, are sparse compared to Reid's; for while Chicago is perhaps the country's most polygraph-conscious city, New York is a barren vineyard. No big banks use the device there. Only one big store uses it, and the police use it only occasionally. This sales resistance Seckler attributes partly to New Yorkers' thinking they know it all and partly to the city's being heavily unionized—unions don't like the polygraph.

A notably mysterious figure in a notably mysterious profession is an ingratiating, darkish, youngish man named **Cleve Backster**, who affects a black trench coat and is reported to be the man who set up the Central Intelligence Agency's polygraphic

screening program in 1948 and to have effectively spread the gospel in other governmental agencies. Although somewhat more articulate than most of his colleagues, Mr. Backster clams up on his career in public service ("I can't talk about anything till 1951, when I went into private business"), though under cross-examination he admits he majored in psychology at Texas A. & M. ("I was drawn to interrogation work even then") and served in the Army from 1942 to 1949. He also admits to being general manager of both Lie Detection, Inc., and Seaboard Applicant Service, twin firms specializing in screening applicants for jobs in banks, department stores, and other businesses where honesty is an especially attractive quality to an employer. He may or may not also be president of these firms, which have offices in Washington, Baltimore, and New York. Asked if he was, he replied, "Not necessarily."

Dr. Fabian L. Rooke, a ruddy, persuasive, confident man in his forties, is a New York psychologist who does tests with the Pardham Pathometer. He says he has been using it since 1935 and has not yet made a diagnosis that was later proved wrong. On the rare occasions when New York police resort to a lie detector, they are most likely to call in Dr. Rooke. A steady stream of "subjects" is provided by Lord & Taylor, which sends him all nonprofessional shoplifters they catch. He uses the Pathometer to make a preliminary diagnosis of the mental quirk that led them to shoplift—he says they always steal for neurotic reasons, not because they want to sell or use the stuff—and, if he thinks they need further treatment, suggests they come back.

Lloyd Furr and **Leonard Harrelson** are high-powered, fast-talking young men who run the American Bureau of Investigation in Washington, D. C. This private-eye agency was recently given some publicity by Fulton Lewis, Jr., who put on the air their recordings, made with concealed microphones, of conversations between allegedly lax public officials in his home county in Maryland. An article on Harrelson in the December, 1953, issue of *Adam*, a magazine that features informally dressed young women on its covers, made much of his prowess as a hypnotist. Before the American Bureau of Investigation was set up in 1952, his card read: "Leonard H. Harrelson. Hypnotist—Relieve Insomnia—Stop Smoking—Stop Drinking—Many Other Benefits." He thinks the polygraph is pretty good, too: "You can positively read a person's mind if you know how to run it. Get more information in an hour than by six weeks of ordinary investigating." Furr, who joined the firm last year and also doubles in hypnotism, was on the city police force for twelve years. Both partners are members of the Academy for Scientific Interrogation, although they are not certified by it. That doesn't bother them. "Who are they to pass on us?" they ask, a hard question indeed.

15

The Government Gets Into the Act

In 1944 at the Papago Park, Arizona, war prisoners' camp, a captured German submarine crewman was found beaten and strangled in a barracks washroom. One prisoner admitted having heard another boast about the killing but refused to say who it was. "They killed Drechsler because he wasn't a good Nazi," was all he would say. "I wouldn't be a good Nazi if I told what I knew."

After several weeks of getting nowhere, the camp authorities consulted Colonel Ralph W. Pierce, who was then in charge of the Counter-Intelligence Corps School in Chicago. Colonel Pierce had heard of the work of Leonarde Keeler, and he asked Keeler to go down and see what could be done. The compound in which the reluctant informer lived contained forty barracks and a thousand men. Keeler put the prisoner on the polygraph and went through the whole forty, one by one: "Did the fellow who helped kill Drechsler live in Barrack 1? . . . in Barrack 2?" Over several hours, he got a consistent positive reaction on one barrack. He then named the prisoners in that barrack one by one, and finally concluded the man who had boasted about his part in the killing was one Otto Stenger. The process was repeated with Stenger (who admitted his guilt but refused to name the others) and, after three weeks of testing, Keeler was able to pick out seven prisoners, all of whom confessed and were executed.

Greatly impressed, Colonel Pierce bought the first Army polygraph for the Chicago Counter-Intelligence Corps School. This was the first important use made of the polygraph by a division of the Federal government. In August, 1945, Colonel Pierce, Keeler, Alex Gregory, Russell Chatham, and other leading polygraphers made the first use of the instrument for security-screening purposes: At Fort Getty, Rhode Island, where several hundred German prisoners had volunteered for police work with the occupation forces in Germany, several weeks of examinations screened out a third of the group as pro-Nazi or unsuitable for other reasons.

All branches of the armed services now use the polygraph in criminal work. It was made standard equipment in the Army's Criminal Investigation Division in the fall of 1948, and CID men were regularly trained at the Keeler school in the days when it was known as a diploma mill. The Army has been directly responsible for the two largest—and most controversial—lie-detection programs to which government employees have been subjected.

Oak Ridge

In February, 1946, a group of polygraphers led by Leonarde Keeler himself and including veterans like Alex Gregory as well as a relat newcomer, a former Indianap police officer of pleasing addr named Russell Chatham, was invit by the Army Corps of Enginee again through Colonel Pierce, to what they could do about cleari personnel and preventing the "div sion"—or, less politely, theft—of sionable materials at the Oak Rid Tennessee, atomic-bomb plant.

The group of polygraphers up an experimental program limit to the few hundred employees w had access to the final-produ building, and the program was success. They detected some thefts final product and got the materi

McCARTHY vs. THE POLYGRAPH

NO ONE has tried more earnestly to expand the political use of the lie detector than the junior Senator from Wisconsin. Old King Cole did not call more insistently for his pipe and bowl than McCarthy has for his polygraph.

Way back in the spring of 1949, when the 205 (give or take a hundred) "card-carrying Communists" in the State Department were but a gleam in McCarthy's eye, he invoked the gadget in his first crusade against the U.S. Army—his attempt to prove that Army officers had extorted confessions from the SS men then awaiting execution for the Malmédy massacre of unarmed American prisoners. "I think you are lying!" he burst out at one Army witness. "I do not think you can fool the lie detector. You may be able to fool us. I have been told you are very, very smart. . . . I am convinced you cannot fool the lie detector."

In December, 1951, the Senator suggested that polygraph tests should at once be given to all government officials in "sensitive" posts. McCarthy later demanded that a lie test should be administered to Charles Bohlen, when he was appointed Ambassador to Soviet Russia by President Eisenhower. The idea was to lay bare certain subversive thoughts in Bohlen's mind that had hitherto been detectable only by McCarthy. More recently the Senator has proposed that everybody concerned in the case of *Schine v. U.S. Army* should be polygraphized. According to Russell Chatham, who directed the Atomic Energy Commission's polygraph program at Oak Ridge, the lie detector in the current McCarthy-Army controversy "would not be worth a tinker's dam, and any examiner proposing such use would be seeking nothing more than personal publicity."

SUCH AN obsession with the lie detector is odd in one with McCarthy's well-known concern for the truth. Perhaps a clue was offered in an article entitled "Limitations of the Lie Detector" which appeared in the *Journal of Criminal Law & Criminology* for January, 1950. The author, a penologist named Maurice Floch, lists three types of persons who cannot be effectively tested by the polygraph: (1) "the asocial, childish personality type" who feels no guilt about lying; (2) professional criminals, to whom "a lie is a perfectly acceptable instrument preferable to any silly concept of truth"; and (3) pathological liars, who have "lost the ability to distinguish between reality and fiction."

back; they also uncovered a great deal of less sinister "diversion" of tools, work clothing, and even Kleenex (it was during the paper shortage). Some intangible gains were also to be made, such as: "Revelation of verbally unrevealed situations in the personal life of the personnel that could result in the disclosure of classified information under peculiar circumstances."

The authorities decided to go ahead with the program and a contract was duly signed, though not with Mr. Keeler but with the enterprising Mr. Chatham. When the Atomic Energy Commission took over Oak Ridge from the Army in 1947, it also took over the contract and, the following year, extended its scope to include eighteen thousand Oak Ridge employees.

Six full-time examiners were now working all year round for Russell Chatham, Inc., at Oak Ridge, asking the employees if they had been associated with subversives or talking about their work with outsiders, if they had filled out their security questionnaires truthfully, if they had any plans for sabotage, and if they intended to violate the security regulations. (One or two subjects proudly answered "Yes" to the last question, under the impression that "violate" meant "uphold.") A few employees in very sensitive jobs were required to take the test every three months as a condition of employment. The others were merely invited to take annual or semiannual tests "voluntarily." The quotation marks may be explained by the experience of one of the recalcitrants. "We were very promptly informed," he has reported, "that we would be regarded with suspicion, would not be allowed to handle classified work, and would be interviewed by our Security Department and reinvestigated by the FBI. I regret to say that my co-workers capitulated. I didn't and was given a pretty bad time for a while. Had not my immediate supervisors had confidence in me and respected my work, I feel sure I would already have been discharged."

It is impossible to say how common such resentment to the tests was at Oak Ridge. During the earlier limited program, one Oak Ridge official stated that resentment against the tests "was never a serious problem." In fact, many workers have expressed pride in being on the 'polygraph list' because this is concrete recognition of the importance of their work." Supporting this sunny view was a statement made in 1951 by Morse Salisbury, Information Director of the AEC: "I think they love it there because it keeps security uppermost in a man's mind." Later on, when he was asked why the program had not been extended to other atomic plants, Mr. Salisbury reversed his field: "To introduce it now in a new place might create an uproar and might break morale."

REPORTER MAGAZINE

EARLY IN 1951, the AEC began a study of the Oak Ridge program to determine its effectiveness and perhaps with the idea of extending it to other atomic plants if the findings were favorable. They were not. On April 2, 1953, the AEC announced "a new and restricted policy": The lie detector would no longer be used for mass screening but only "in specific cases of security interest at any AEC installation but on a voluntary basis and upon specific authorization, case by case, by the General Manager." When asked whether any such cases have in fact arisen since April, 1953, the Information Director replied, ". . . no instances have come *to my attention*," an answer that would be more enlightening were the italics not his. The announcement of the "new and restricted policy" went on to say that, after studying "the use of the polygraph at Oak Ridge *and in other Federal Agencies* [my emphasis this time], the AEC has concluded that the machine's techniques offer only indeterminate marginal increase in security beyond that afforded by established security measures. . . . [and that] the substantial cost of the Oak Ridge polygraph program in dollars, plus the intangible cost in employee morale, personnel recruitment and labor relations which might accrue from use of the machine substantially outweighed the limited advantage of polygraph use. The study showed there is little data available indicating that the polygraph has any value in detection of intent to commit sabotage or espionage, or sympathy with subversive movements or ideologies. Its . . . value was found to be in detection of pilferage."

The boom at Oak Ridge was by far the biggest thing that ever happened in the polygraph world. According to Chatham, during the seven years the program lasted, some fifty thousand tests were made of eighteen thousand individuals at a cost of $361,000. Stating he had been "personally and professionally damaged" by the AEC press release, Mr. Chatham issued a lengthy rebuttal, alleging that "loose talk" had decreased by seventy per cent under the program and that ten per cent of those asked about their questionnaires had admitted false answers.

Since the AEC has neither answered Mr. Chatham nor published the actual survey, one can only speculate. There are the usual number of "inside" stories floating around: that Mr. Chatham was the victim of a personal vendetta, that the program was too expensive (although he has pointed out that its cost averaged $50,000 a year as against a total of $1.5 million spent annually on security at Oak Ridge), and that the testing methods were unsound. "I have heard that these men examine employees at the rate of two to four an hour," a widely respected polygraphist wrote while the program was still going on. "It is my opinion that a thoroughgoing examination of one subject cannot be made in less than forty-five minutes to one hour. Conducting a polygraphic examination in fifteen or twenty minutes is comparable to making a complete physical examination in the same time."

"Repugnant, Abhorrent . . ."

While the Atomic Energy Commission was debating the value of the lie detector behind closed doors, the

public got its first glimpse into the government's use of the device. On December 20, 1951, the New York *Times* ran a front-page story by Anthony Leviero that has the distinction of being the first survey of the use of the lie detector in Federal employment. Mr. Leviero revealed that the instrument was then used in the atomic plant at Oak Ridge, the State Department, the Central Intelligence Agency, and the Defense Department. His information on the first three was accurate, but the Defense Department was able to muddle and minimize its record then as it has done consistently ever since.

A month later, on January 17, 1952, the Defense Department was shoved unwillingly into the spotlight when Senator Wayne Morse made an angry speech about the use of the lie detector to screen "applicants for rather high civil positions in the Defense Establishment." One such applicant, perhaps stimulated by the Leviero story, had gone to the Senator, who was then a member of the Senate Armed Services Committee, and told him "some of the sensations that he, a free American citizen, experienced while undergoing such a test 'voluntarily' in order to get a job with his government."

The Senator's narrative was vivid: "He stated that he had the various parts of the lie detector strapped on his bare arms and on other bare parts of his body. . . . He said the only two persons in the room, himself and the operator . . . , went through the list of questions, under the instructions that he was to answer 'Yes' or 'No.' After the first time through the operator said to him, 'Now, Mr. X, . . . do you have any question or any doubt as to the correctness of your answers to any of the questions?' 'Yes,' he said, frankly, 'I do. . . . You asked me whether any of my relatives or friends entertained any Communist leanings or fellow-traveler sympathies. . . . I answered "No" because I do not know of any of them that do, but I have many friends and many relatives, and what puzzles me is: suppose that at some time in the future one of them shows up to be sympathetic to Communism or to be what we call a fellow traveler, where is that going to leave me?' He said, 'I am a little puzzled about that.' Apparently the operator thought that in view of that expression of doubt, he ought to go through the test again. . . . So he was put through the questions a second time . . . [and] a new question was [added] . . . the operator in a very dramatic way said, 'Now, Mr. X, I wish to ask you a very, very personal question—I repeat, a very, very personal question, and I wish to ask you whether you have any objections.' Mr. X . . . [replied], 'Fire away.' After that response, the operator said, 'Well, in view of your comment, it will not be necessary to ask the question. That is the end of the test.' Mr. X said that about twenty-four hours later he was called on the telephone and given a very brief message, as follows: 'I am sorry to advise you that you are non-usable.' "

MR. X'S EXPERIENCE seemed to Senator Morse a violation of "the basic guarantees of personal liberty and freedom set forth in the Constitution." While he did not object to the use of lie-detector evidence in

court "if properly submitted, surrounded with the procedural safeguards available to any defendant in an American courtroom," he did object to the use of lie detectors to screen applicants for government jobs.

Senator Morse concluded his speech with the warning that if he found "we cannot have a cessation of its use as an employment technique . . . I shall in due course of time introduce appropriate legislation . . . to protect free American citizens . . . from what I consider to be a repugnant, abhorrent, and outrageous procedure for hiring Government servants."

Secretary of Defense Robert A. Lovett, who was present at a meeting of the Senate Armed Services Committee where Senator Morse made his feelings known, said that "he was not aware of any such procedure" and promised an investigation. The investigation was made, the practice was found to exist, and several defense officials including Assistant Secretary Anna Rosenberg took the position that such procedure was repugnant to fair employment practices in government and agreed that it should be banned.

The Old Army Game

Just what meaning, if any, the Lovett-Rosenberg promise had is obscure. At the time of the Morse speech, Clayton Fritchie, the Defense Department's Information Director, told reporters that lie-detector tests had been abolished as a "repugnant practice." But the *Times* of February 17, 1952, carried a statement by an unnamed Defense spokesman that the polygraph was still used on job applicants and employees in very sensitive posts and noted that Secretary Lovett himself had approved the statement. The spokesman said that the test was not compulsory but that an applicant forfeited his chance for the job unless he took the test.

Drew Pearson's column of March 1, 1952, accused Secretary Lovett of "doubletalk" and gave the text of the order he issued after Morse's protest as: "I desire that all use of the polygraph for pre-employment and security clearance purposes within the immediate office of the Secretary of Defense be discontinued." Mr. Pearson pointed out that the Secretary's "immediate office" was staffed by exactly twenty persons.

WHATEVER the facts may be about the immediate office of the Secretary of Defense, there is no doubt that the polygraph had been used on a mass scale for security screening by the National Security Agency of the Defense Department for a year before Senator Morse's speech.

What is worse, as we shall see from the case histories that will be presented in the second article of this series, lie detectors have been used ever since—in a flagrantly abusive manner—not only on thousands of employees in the National Security Agency but on at least two high officials of the State Department.

(The concluding article of Mr. Goodell's series will appear in the June 22 issue.)